

AGENDA ITEM #

June 12, 2002

To: Delta Protection Commission
From: Lori Clamurro, Delta Protection Commission Staff
Subject: Projects Approved for CALFED Ecosystem Restoration Program Funding
(2002 Proposal Solicitation)

Listed below are project descriptions and funding recommendations for the Delta-area project proposals selected for Ecosystem Restoration Program funding during the most recent (2002) proposal solicitation. A total of eighteen Delta projects, totaling nearly \$17,315,000, are recommended for funding. Most of these projects will be funded from Proposition 204 funds, which became available after the Record of Decision was signed in 2000.

Transport,Cycling,and Fate of Mercury and Monomethyl Mercury in the San Francisco Delta and Tributaries--An Integrated Mass Balance Assessment Approach

California Department of Fish and Game

This proposal continues scientific research to understand environmental mercury and monomethyl mercury issues that is a part of the CALFED Mercury Research Project. The focus of this proposal is to understand the transport, cycling, and fate of mercury and monomethyl mercury in the San Francisco Delta and tributary watersheds using a biogeochemical mass-balance framework.

Conditions: None

Recommended Funding:

Initial	Final	Selection Panel Comments
\$3,881,215	\$3,881,215	No change from initial recommendation. In response to comments regarding improving mercury source assessments, the Selection Panel recommends that this project include estimation of episodic inputs of mercury to the San Joaquin River in the vicinity of Mud Slough.

Staten Island Wildlife-Friendly Farming Demonstration

Ducks Unlimited,Inc.

This proposal is to establish a pilot demonstration program to (1) support and improve wildlife-friendly agriculture that fosters at-risk species such as the greater sandhill crane and (2) investigate the effects of different agricultural practices on wildlife populations and water quality. This will be achieved by constructing low interior cross levees and a high volume discharge pump to improve water management on the island. Project monitoring will evaluate the effects of water management practices on habitat use by target species and on water quality, specifically dissolved carbon.

Conditions: The Selection Panel recommends that project implementation is consistent with the terms and conditions of the previous contracts that funded acquisition of Staten Island by The Nature Conservancy.

Recommended Funding:

Initial	Final	Selection Panel Comments
\$1,507,459	\$1,507,459	No change from initial recommendation. The Selection Panel recommends that the project be developed to assure consistency with ongoing planning processes including CALFED's North Delta Improvements and Delta Regional Implementation Plan.

Sustainable Restoration Technologies for Bay/Delta Tidal Marsh and Riparian Habitat

H.A.R.T., Inc.

This proposal is a research and restoration project that builds upon earlier work on the North Fork Mokelumne River and Georgiana Slough. The project includes bank protection work, reconstructing natural berm environments to create new riparian and shaded riverine aquatic habitats, developing new freshwater tidal marsh habitat, removing non-native invasive weeds and replanting with native species, and monitoring the effectiveness of the different restoration technologies used for this work.

Conditions: None

Recommended Funding:

Initial	Final	Selection Panel Comments
\$1,800,000	\$1,800,000	No change from initial recommendation. The Delta Protection Commission's comments endorsing this project reinforce the Selection Panel's recommendation that it be funded as submitted.

Life History of Egeria densa in the Delta: Factors Controlling Production & Fragment Viability

Portland State University

This is a research proposal to study the life history of Egeria densa, a nonnative invasive aquatic plant in the Delta, to investigate control measures that can be more readily designed, and to better understand the implications of existing management actions on both Egeria densa and others aquatic species.

Conditions: None.

Recommended Funding:

Initial	Final	Selection Panel Comments
\$327,937	\$327,937	No change from initial recommendation. This study will likely provide some good information on Egeria that can aid ERP, and in a timely manner.

Determining the mechanisms relating freshwater flow and abundance of estuarine biota (the "Fish-X2" relationships): Phase I

San Francisco State University, Romberg Tiburon Center

This proposal responds to the need to more fully understand the mechanisms at work in the fish-X2 relationship in order to improve its effectiveness as an ecosystem management tool. This proposal includes (1) designing and planning a coordinated interdisciplinary research project of fish-X2 relationships and (2) conducting modeling studies to guide future field research. This

research project could provide information for more scientifically-based restoration or water management.

Conditions: None.

Recommended Funding:

Initial	Final	Selection Panel Comments
\$509,222	\$509,222	No change from initial recommendation. The ABAG-CALFFED Task Force's and San Francisco Estuary Project's comments endorse the proposal, emphasizing its value to their region.

Restoring Ecosystem Integrity in the Northwest Delta: PHASE II

Solano County Farmlands and Open Space Foundation

The portion of this project recommended for funding is the restoration of vernal pools on 1700 acres east of the Jepson Prairie in Solano County. This includes research on different grazing and burning practices to manage these habitats. Funds are also recommended for an outreach program to strengthen existing management partnerships in the Jepson Prairie-Prospect Island corridor, including work with agricultural interests.

Conditions: None

Recommended Funding:

Initial	Final	Selection Panel Comments
\$1,803,223	\$246,370	The local Reclamation District and two adjoining landowners submitted letters expressing concern about how the project would affect local agriculture and alter flood protection in the area. In response, the Selection Panel recommends funding only the Wilcox Ranch vernal pool protection and education and outreach tasks. Barker Slough restoration planning and acquisition (\$1,556,853) should be considered as a future Directed Action, after coordination with interested parties.

Shallow open water habitats:Hydrodynamics and benthic grazing

Stanford University

This research proposal will develop, via field observation and modeling, a detailed view of how tides and wind-generated waves determine the physical structure and hydrodynamics of shallow estuarine waters, and how these physical processes can act to constrain net primary production through their effects on grazing and light. Field experiments in the shallows of Grizzly Bay and in Franks Tract will be conducted. The investigations will provide important information that can improve modeling of the Delta and planning of estuarine restoration projects.

Conditions: None

Recommended Funding:

Initial	Final	Selection Panel Comments
\$471,661	\$471,661	No change from initial recommendation. This project can produce really important information, the cost is reasonable, and the likelihood of success is high. As the work develops, the proposers need to show how their project addresses critical uncertainties in the current conceptual models concerning intertidal and shallow subtidal habitat restoration (and thus cast their work more directly in the CALFED adaptive management framework).

McCormack-Williamson Tract Restoration: Wildlife-Friendly Levee Management

The Nature Conservancy

The McCormack-Williamson Tract provides opportunity to restore tidal freshwater wetlands, enhance riparian habitat, and potentially reduce flood damage to neighboring private land. The project proposes levee resloping and planting native vegetation to protect levees from interior wave erosion and create riparian habitat. This project is part of the larger CALFED goal of restoring ecosystem processes and habitat corridors, specifically shallow water tidal marsh, in the Delta.

Conditions: The Selection Panel recommends that project implementation is consistent with the terms and conditions of the previous contracts that funded acquisition of the McCormack-Williamson Tract by The Nature Conservancy.

Recommended Funding:

Initial	Final	Selection Panel Comments
\$2,476,835	\$2,476,835	No change from initial recommendation. The Selection Panel recommends that the project be developed to assure consistency with ongoing planning processes including CALFED's North Delta Improvements and Delta Regional Implementation Plan.

Delta Smelt Culture and Research Program

University of California, Davis

This proposal continues the on-going Delta Smelt Culture Project. This program provides smelt for studies of fish screens and other projects that affect the species, and researches basic smelt biology and life history. Information gathered in this project improves predictability of smelt performance in culture and may aid in predicting smelt performance in the field and in restoration projects.

Conditions: The Panel recommends partial funding (2 years) of the currently proposed project to continue culture development and expect that the expanded production (30,000 per year) and the nutritional studies should be included at the \$200,000 per year level.

Recommended Funding:

Initial	Final	Selection Panel Comments
\$200,000	\$400,000	The Selection Panel initially recommended funding only one year of this study at \$200,000. Numerous comment letters encouraged multi-year funding at a level higher than the Selection Panel initially recommended. The Panel, however, feels some research tasks do not merit funding as a separate research product, and question some of the apparently excessive costs. Recognizing the importance of continuing to culture Delta smelt, but encouraging that future efforts be funded by other projects benefiting from this research directly, it now recommends two years of partial funding to continue culture development.

Primary Production in the Delta: Monitoring Design, Data Analysis and Forecasting

University of California, Davis

Because phytoplankton primary production plays a fundamental role in the ecosystem process, understanding this production is important to meeting ERP goals. This proposal builds upon existing data and research to improve monitoring of phytoplankton production and related water quality variables in the Delta and Suisun Bay.

Conditions: None.

Recommended Funding:

Initial	Final	Selection Panel Comments
\$359,201	\$359,201	No change from initial recommendation. This proposal is strongly supported by external and region reviews and panel evaluation. Funding is recommended, as is, given the reasonable costs, clear merits for CALFED goals and strong support by reviewers.

Selenium Effects on Health and Reproduction of White Sturgeon, *Acipenser transmontanus*, in the Sacramento-San Joaquin Estuary

University of California, Davis

This proposal is to research the key areas of scientific uncertainty about the toxic effects of selenium accumulation in white sturgeon, a valuable species in the Bay-Delta ecosystem. These studies will investigate how elevated selenium concentrations in white sturgeons may affect the species' health and reproduction. The results of the studies will provide information to decision makers about the ecological risk of Bay-Delta selenium contamination.

Conditions: None

Recommended Funding:

Initial	Final	Selection Panel Comments
\$199,732	\$199,732	No change from initial recommendation. The justification, conceptual framework, goals, and design of the proposed work are sound, and the Panel believes that project results will be relevant and useful to managers. The budget is reasonable, and the likelihood of successful completion is very good.

Reducing the Introduction and Damage of Aquatic Nonindigenous Species through Outreach and Education, Phase 2

University of California, Davis, Department of Environmental Science & Policy

The project will: a) use workshops, industry magazine ads and articles, best management practices manuals, and enhancement of an existing website to educate industries, such as landscapers or hobby aquarium suppliers, that sell or distribute exotic species about the potential impacts of those species' introduction and spread in the environment, and b) educate the general public about same through a video for use on commercial airplane flights, especially those arriving from overseas. These tasks will occur over a two year period.

Conditions: None

Recommended Funding:

Initial	Final	Selection Panel Comments
\$179,783	\$179,783	No change from initial recommendation. The Clean Estuary Project's comment endorsing the value to the Bay region from funding of this proposal.

Effects of Climate Variability and Change on the Vegetation and Hydrology of the Bay-Delta Watershed

University of California, San Diego, Scripps Institute of Oceanography

This study will use satellite data to characterize recent historical vegetation variability, develop a combined model of the watershed's hydrology and vegetation, and apply these tools to assess

how vegetation shapes a watershed's hydrological response to climate variability and global climate change.

Conditions: None

Recommended Funding:

Initial	Final	Selection Panel Comments
\$645,656	\$645,656	No change from initial recommendation. The Selection Panel agrees with the Technical Panel that this proposal is 'almost certain to improve our understanding of climate-vegetation-hydrology interactions' and 'will provide the scientific rationale to build an integrative modeling system that can be used to plan and evaluate CALFED restoration efforts'.

Evaluation of Mercury Transformations and Trophic Transfer in the San Francisco Bay/Delta: Identifying Critical Processes for the Ecosystem Restoration Program
US Geological Survey

This project will examine processes that affect the biogeochemical transformations and transfers of mercury among physical (sediment and water) and biotic (food web) compartments at Franks Tract (a 3,188-acre lake in the central Delta) and the Cosumnes River. The processes to be studied include methylmercury production and degradation, transfer of methylmercury between sediment and water, the entry of methylmercury into the food web, and its transfer and biomagnification in the food-web.

Conditions: None.

Recommended Funding:

Initial	Final	Selection Panel Comments
\$2,262,567	\$2,262,567	No change from initial recommendation. The Selection Panel recommends that the investigators incorporate modifications, such as the inclusion of one or more sites being influenced by ecological restoration (e.g., the Yolo Bypass), to directly address management concerns related to ecological restoration in this mercury-contaminated ecosystem.

Investigating in situ Low Intensity Chemical Dosing to decrease Delta waters DOC concentrations and DBP Precursors while accelerating wetland peat accretion rates and reducing flood risks

US Geological Survey

This proposal is for the first phase of a project to assess using low intensity chemical dosing of coagulants to remove DOC and disinfection byproduct precursors from Delta island drainage water. This phase includes both laboratory and field studies.

Conditions: Provide half the project funds.

Recommended Funding:

Initial	Final	Selection Panel Comments
\$767,135	\$767,135	No change from initial recommendation. The Selection Panel's recommendation is to fund in part, providing half the costs (\$767,134 is 50% of the requested funds) based on expected cost-sharing from the Drinking Water Quality Program.

Pyrethroid Insecticides: Analysis, Occurrence, and Fate in the Sacramento and San Joaquin Rivers and Delta

US Geological Survey

Pyrethroid insecticides are extremely toxic to fish and invertebrates. Use of these insecticides is increasing in the Sacramento and San Joaquin River watersheds and the Delta. This proposal is to develop analytical methods to measure pyrethroid insecticides occurrence and fate in water, colloids, sediments, and biota and to analyze samples from the Sacramento and San Joaquin rivers and Delta. Funding is recommended for (1) the study's methods development component and (2) the analysis of limited numbers of environmental samples (water, colloids, sediment, and aquatic biota) from the Sacramento and San Joaquin rivers and in the Delta, as needed to test the analytical methodology.

Conditions: Fund only: (1) the study's methods development component and (2) the analysis of limited numbers of environmental samples (water, colloids, sediment, and aquatic biota) from the Sacramento and San Joaquin rivers and in the Delta, as needed and sufficient to test the analytical methodology.

Recommended Funding:

Initial	Final	Selection Panel Comments
\$800,000	\$800,000	No change from initial recommendation. The project contains two distinct components: the first (funded) will develop analytical methods for quantifying pyrethroid insecticides in water, colloids, sediment, and biota. The project goals related to methods development are clearly stated and considered feasible by technical reviewers. The second proposed component (not funded) would examine the occurrence and fate of pyrethroids in field studies; however, the proposed field component was considered to be less well developed and premature until reliable analytical methods have been developed.

Tiered Public Outreach Program

Water Education Foundation

This proposal is for a multi-faceted education program about the CALFED ecosystem restoration efforts. The proposal includes updating the PBS special "To Quench A Thirst;" updating the Delta Water Map; journalists' tours of the Bay Delta, and continued provision of a water related curriculum used to train teachers. A fifth component – a Science and Water Policy report – is not recommended.

Conditions: Do not fund \$36,640 of proposal for Science and Water Policy report.

Recommended Funding:

Initial	Final	Selection Panel Comments
\$360,000	\$360,000	No change from initial recommendation. The Selection Panel recommends funding the update of the video "To Quench A Thirst," the update of the Delta Water Map, the Delta tours for journalists, and the Teaching Tools components. The Selection Panel recommends not funding the Science and Water Policy briefing paper component absent the identification of technically qualified authors and editorial review body.

Geomorphic and Geologic Mapping for Restoration Planning, Sacramento-San Joaquin Delta Region

William Lettis & Associates, Inc.

This is a geologic and geomorphic mapping project that will produce GIS maps of the eastern Delta and lower Sacramento and San Joaquin Rivers. These maps will integrate interpretation of early historical records with established geomorphic and geologic mapping techniques to reconstruct pre-existing river system components, including former floodplains that hosted much of the formerly extensive riparian habitat along the river. The maps will aid restoration and management in these areas.

Conditions: None

Recommended Funding:

Initial	Final	Selection Panel Comments
\$120,000	\$120,000	No change from initial recommendation. The Delta Protection Commission commented on the application, requesting that the information and data produced in this project be made available "free" to the public. A standard condition of all CALFED ERP funding, as documented in the PSP's Attachment D, is that all data and information, such as the documents developed through this project, are public information and may not be sold.